NETL Advanced Combustion Technologies Product Line

The Combustion Technologies Product line promotes the advancement of coal combustion power generation through forward-looking approaches including systems integration, compliance technologies, advanced cycles, hybrid systems, and component improvement for new and existing plants. The mission of the product line is, in cooperation with private industry and academia, to develop and commercialize advanced coal-based power generation technologies for use in industrial, commercial, and utility markets.

NETL is supporting the development of advanced technologies including fluidized-bed combustion (FBC), indirectly fired power systems (IFPS), low emissions boiler systems (LEBS), and hybrid gasification/combustion cycles. Commercial FBC units operate at competitive efficiencies, cost less than today's units, and have low NOx and SO_2 emissions. Advanced FBC can potentially provide further performance and cost benefits. IFPSs use an indirectly fired gas turbine combined cycle in which the gas turbine working fluid is heated in high-temperature heat exchangers and advanced boiler technology achieves high coal conversion efficiencies. Because the combustion and power systems are separated in an IFPS, environmental clean-up is simplified. LEBS is an advanced pulverized coal-fired power system being developed under an industry-DOE/Fossil Energy partnership. A small commercial-scale LEBS proof-of-concept plant is planned to be built in Illinois next year. In hybrid cycles, a solid fuel (e.g., coal and/or biomass) is partially gasified to produce synthesis gas for use in conventional gas turbines or for conversion to fuels, chemicals or hydrogen. The residual char from the gasifier is burned in a circulating fluidized bed boiler or other type of combustion system to generate steam that runs a steam turbine.

Workshop Goal

The goal of the workshop is to build a consensus on the engineering RD&D needs to overcome the technological, economic, regulatory, market, and environmental barriers to allowing combustion technologies to provide the Nation with an environmentally superior, affordable, and uninterrupted supply of coal-based electrical power. The workshop format will consist of presentations by DOE and industry representatives and facilitated discussion sessions where stakeholders can identify and address research topics and assign priorities.

Dear Colleague:

You are cordially invited to attend a workshop on the "Evolution of Combustion Technology to Support National Energy Needs," scheduled for January 14-16, 2002, at the Sheraton World Resort, Orlando, Florida. The workshop is sponsored by the U.S. Department of Energy's National Energy Technology Laboratory (NETL). The goal of the workshop is to identify technical and environmental barriers confronting existing coal-based combustion systems and advanced technologies, such as fluidized bed combustion, indirectly fired power systems, and hybrid systems that utilize both gasification and combustion. Your participation in identifying barrier issues and near- to mid-term R&D needs for future combustion systems would provide valuable input to our program planning process.

You are an important member of the DOE stakeholder community, and we look forward to seeing you at the workshop.

Sincerely,

Rita A Bajura

Rita A. Bajura

Director, NETL

Registration Fee: $150.00

(This fee covers the cost of food and beverages, which include continental breakfasts, lunches, reception, and conference breaks.)

All attendees, including presenters, must register for the workshop. To register, complete the registration form included in this announcement and mail or fax to NETL Event Management (Pittsburgh Office).

Payment of the registration fee may be made by check (payable to EG&G Technical Services), or by credit card. Registration fees cannot be refunded after January 4, 2002.

Foreign National Visitor Notice

NETL supports an active program of unclassified visits and assignments by foreign nationals for the benefit of its programs. It is essential to ensure that these visits and assignments are conducted under prescribed conditions in a manner consistent with programmatic, U.S. and DOE national security policies, requirements, and objectives, including export control laws and regulations.

For the purposes of DOE Policy 142.1 and DOE Notice 142.1, a foreign national is any person who is not a U.S. citizen and includes permanent resident aliens. Non-U.S. citizens wishing to attend this meeting **must submit a Foreign National Visitor's Form (NETL F 142.1) at least 30 days prior to the meeting. Any forms submitted to NETL under 30 days will be submitted for review with an understanding that approval to participate at this event may not be granted.** If approval is not granted, the foreign national attendee will not be permitted to attend—no exceptions. It is the responsibility of any foreign national planning to attend this event to coordinate with the NETL Event Management to ensure that approval has been granted to attend the workshop for Evolution of Combustion Technology to Support National Energy Needs.

Hotel Information

The Sheraton World Resort, located at 10100 International Drive, Orlando Florida, will be the official hotel for the workshop. The overnight room rate is the prevailing government per diem rate (currently $95.00) for single or double occupancy, plus $6.00 resort fee, plus 11% tax. Extra person charge is $20.00 per night.

For reservations, contact the hotel directly at 407-352-1100. You must reference the U.S. Department of Energy to receive the special room rate listed above. All reservations must be accompanied by a first night room deposit, or guaranteed with a major credit card. The block of rooms will be held until December 14, 2001. Hotel check-in time is 3:00 p.m. and check-out time is 11:00 a.m.

The Sheraton World Resort offers the following services:

- Transportation to Walt Disney World Theme Parks
- Transportation to Lake Buena Vista Factory Outlet stores
- Transportation to the "Mercado" (shops/dining)

For more information about the Sheraton World Resort Orlando, visit the hotel's website at www.sheratonorlando.com

For information about attractions in the Orlando area, visit the following website: www.orlandoinfo.com

Orlando International Airport Transportation

MEARS TRANSPORTATION - 407-423-5566

Hours: Open 24 Hours

Location: On the second level - outside baggage claim

Prices: Adult / per person $14 one-way / $25 round-trip

All return transportation must be scheduled upon arrival to allow for additional security procedures at the airport.

TRANSTAR TRANSPORTATION - 407-856-7777

Hours: Open 24 Hours

Location: On the second level - outside baggage claim

Prices: Adult / per person $13 one-way

All return transportation must be scheduled upon arrival to allow for additional security procedures at the airport.

TOWN & COUNTRY - 407-828-3035

Prices: 1-5 adults per cab $29.50 per cab, one way

6-10 people taxi van $48.50 per taxi van, one way

The taxi must be scheduled for return transportation to the airport, but is normally readily available in the area.

Driving Directions From Orlando International Airport to Sheraton World Resort

When driving out of the airport, follow signs to Tampa/Area Attractions/528 West, take 528 West/Beeline Expressway until you come to Exit #1/International Drive/Sea World Exit, at the stop sign turn left on International Drive, turn right at the first traffic light (Westwood Boulevard), Sheraton World Resort's main entrance will be on your left.

Parking

The hotel provides complimentary parking.

Evolution of Combustion Technology to Support National Energy Needs
January 14 - 16, 2002, Sheraton World Resort Orlando

Monday, January 14

6 - 8 pm **Registration and Reception**

Tuesday, January 15

7:00 am **Registration and Continental Breakfast**

9:00 am **Evolution of Combustion Technology Workshop Perspectives, Goals, and Desired Outcomes**
Carl Bauer, Associate Director, Office of Coal and Environmental Systems U.S. Department of Energy, National Energy Technology Laboratory

9:30 am **Utilities: Putting the Paste Into the Tube**
Robert Sansone, Vice President, Engineering XL Insurance Corp.

10:00 am **Break**

10:20 am **Clean Coal Power Initiative**
Thomas A. Sarkus, Division Director, Coal Power Projects Division U.S. Department of Energy, National Energy Technology Laboratory

10:50 am **Advanced Combustion Technology Is Insurable**
Richard E. Weinstein, Project Manager, Government Services, Parsons Infrastructure & Technology Group Inc.

11:10 am **Steam Turbine Designs for Coal Fired Generation**
Michael J. Boss, Principal Engineer, Steam Turbine Technology General Electric

11:30 am **Group Lunch**

1:00 pm **Breakout Groups**
- Cost and Technology Goals to Keep Coal Combustion Technologies Competitive
- What are the Roles for Industry and Government
- Power Industry Trends and Market Drivers, Commercialization Barriers and Strategies

3:00 pm **Break**

3:30 pm **Near and Future Developments and Products**
John L. Marion, Manager, Contract R&D, Powerplant Laboratories, Alstom Power Inc.

3:50 pm **Very High-Temperature Heat Exchanger Performance When Firing Low-Grade Fuels**
Michael L. Jones, Associate Director of Industrial Relations and Technology Commercialization, Energy &Environmental Research Center of the University of North Dakota

4:10 pm **Partial Gasification Combined Cycle Technology - A Practical Pathway for Clean Coal Advancement**
Robert S. Giglio, Foster Wheeler Development Corp.

4:30 pm **LEBS TBD**

4:50 pm **Development of ITM Oxygen Technology for Combustion and Gasification Applications**
Philip W. Winkler, Manager, Government Systems Air Products & Chemical, Inc.

5:10 pm **Questions and Answers**

Wednesday, January 16

7:00 am **Registration and Continental Breakfast**

8:00 am **George Rudins,** Deputy Assistant Secretary for Coal and Power Systems (Invited) U.S. Department of Energy

8:30 am **U.S. Department of Energy, National Energy Technology Laboratory's Compliance Technology R&D Program**
Thomas J. Feeley, III, Product Manager, Environmental and Water Resources U.S. Department of Energy, National Energy Technology Laboratory

8:50 am **Mercury Control Update**
Scott A. Renninger, Project Manager, Environmental Project Division U.S. Department of Energy, National Energy Technology Laboratory

9:10 am **Combustion Sensors**
Robert R. Romanosky, Product Manager, Power Systems Advanced Research U.S. Department of Energy, National Energy Technology Laboratory

9:30 am **Break**

9:50 am **Breakout Groups**
- Barriers to and Near- to Mid-term RD&Ds for Coal Combustion Systems
- Potential for Ultra Super Critical Cycle and Advanced Materials
- CO_2 Sequestration Ready Combustion Systems

12:00 pm **Lunch**

1:30 pm **Wrap-up of Breakout Sessions**

3:00 pm **Adjourn**

Registration *January 14-16, 2002*

Evolution of Combustion Technology to Support National Energy Needs

(PLEASE PRINT OR TYPE)

Name _____

Affiliation _____

Address _____ MS-_____

City _____ State _____ Zip Code _____

Country _____ E-Mail Address _____

Phone Number _____ Fax Number _____

Please identify any special needs _____

Are you a U.S. Citizen? _____ Yes _____ No If not, list Citizenship _____

Non-U.S. Citizens wishing to attend the workshop must submit a Foreign National Visitor's form (F142.1-1). A copy of the form is included with this announcement. Please submit this form as soon as possible.

Registration/Food Service Fee: $150.00 (This fee covers the cost of continental breakfasts, lunches, reception, and conference breaks.)

Registration fees cannot be refunded after January 4, 2002

Make your check for the registration fee payable to **EG&G Technical Services** and mail to:

NETL Event Management
National Energy Technology Laboratory
P.O. Box 10940
MS 922-174A
Pittsburgh, PA 15236

or complete the credit card information below and fax to **412-386-6486**.

_____ Visa _____ MasterCard _____ American Express

Credit Card Account Number __ __ __ __ - __ __ __ __ - __ __ __ __ - __ __ __ __

Exp. Date __ __ - __ __ __ __ Signature _____Date _____